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EUPHORBIA SINCLAIRIANA, AN OLDER NAME FOR THE WIDESPREAD *EUPHORBIA ELATA*

Euphorbia sinclairiana, un nombre más antiguo para la ampliamente distribuida *Euphorbia elata*

Rodrigo Bernal
Francisco Mora
José Murillo
Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Apartado 7495, Bogotá, D.C., Colombia. rgbernalg@unal.edu.co; jcmurilloa@unal.edu.co

ABSTRACT
A comparison of collections of *Euphorbia elata* from accross its range with specimens of *E. sinclairiana* from its only known locality, the island of Gorgona, off the Pacific coast of Colombia, shows that the two entities are better treated as conspecific, under the older name *E. sinclairiana*.

Key words. *Euphorbia elata*, *Euphorbia sinclairiana*, island endemism, Neotropics plants.

RESUMEN
La comparación de colecciones de *Euphorbia elata* provenientes de toda su área de distribución, con especímenes de *E. sinclairiana* de su única localidad conocida, la isla de Gorgona, frente a la costa Pacífica de Colombia, muestran que ambas entidades deben tratarse como coespecíficas, bajo el nombre *E. sinclairiana*, que es el más antiguo.

Palabras clave. Endemismo insular, *Euphorbia elata*, *Euphorbia sinclairiana*, plantas neotropicales.

During her trip along the western coast of America between 1836 and 1839, the British ship Sulphur anchored on the island of Gorgona, in the Pacific Ocean off Colombia. During the stay on the island, A. Sinclair, one of the botanists on board, collected several species of plants, including a species of *Euphorbia*, shortly thereafter described by Bentham (1846) as *Euphorbia sinclairiana*. This species has remained poorly known (Webster & Huft 1988), and it has been seldom included in any flora or checklist (Murillo & Lozano 1989, Cardiel 1992). Although no type was designated by Bentham, the species can be easily interpreted based on Sinclair's original collections, kept at K, and on several modern collections from Gorgona.

Sixty–eight years after Bentham's description of *E. sinclairiana*, Brandegee (1914) described a new species from Chiapas, Mexico, with the name *Euphorbia elata*. This name has become widely known, and has been often cited in the literature and in databases (Webster & Huft 1988, Burger & Huft 1995, Solomon 2003). The relationships of *E. elata* were discussed by Webster & Huft (1988), who considered that it was closely related to the poorly known *E. sinclairiana*, which they considered endemic to the island of Gorgona. According to Webster and Huft, *E. sinclairiana* differs from *E. elata* in its deeply bifurcate and much–branched inflorescence with foliaceous bracts. These characters, purportedly unique to the Gorgona plants, seemed to make a strong case for an island endemic, allied to an otherwise continental and predominantly montane species.

Modern collections of *E. sinclairiana* from the island of Gorgona were studied by Cardiel (1992), who identified one of the plates of J. C. Mutis' Flora de la Real Expedición Botánica del Nuevo Reyno de Granada as *E.* aff. *sinclairiana*. More recently, additional collections strikingly similar to the plant depicted in Mutis' plate have become available for study. These collections come from a remnant of cloud forest near Bogotá, on the Eastern Cordillera of Colombia, along the route from Bogotá to Mariquita, where Mutis' expedition had its headquarters. Mutis' plate may well have been based on plants from the same general area. We have compared these collections and Mutis' plate with the collections from Gorgona, and with available collections of *E. elata* from all over its range, including the isotype, and have found that the referred differences of *E. sinclairiana* do not hold up in the light of the new findings, and fit well within the variation of *E. elata* throughout its range.

The difference in inflorescence branching was due to an incorrect description of *E. sinclairiana* in the protologue, as becomes evident when studying the collections from the island of Gorgona. Bentham stated that the inflorescences were sessile, with two primary branches, but in all the specimens from Gorgona that we have studied (including a photo of the type) there is a short peduncle (up to 2 cm), although sometimes it is so short (3 mm) that at first sight the inflorescence appears sessile, as interpreted by Bentham. Although this condition is not common in other collections of *E. elata*, it does occur occasionally, as in *D. Daly et al. 6694* (MO), from Acre, Brazil, and *Kennedy & Hufter 2170* (MO), from Panama, which do not differ in other respects from Central and South American collections. Otherwise, the branching of these inflorescences fits within the wide variation of *E. elata*. In fact, variation of inflorescence structure in *E. sinclairiana* includes or overlaps with variation found in *E. elata*.

Another difference that has been used to keep *E. sinclairiana* as a separate species is the length of the first branch of the inflorescence (13–24 cm long vs. 0.5–14.5 cm long in collections of *E. elata*). However, in the specimens from the Andes near Bogotá, which are similar to *E. sinclairiana* in all other respects, the length of the first branch lies within the range of Central American collections.

The other distinguishing character of *E. sinclairiana*, the foliaceous bracts that subtend the inflorescence branches, was supposed to occur only in the Gorgona plants, and deserves a more detailed discussion. Although foliaceous bracts are indeed rare in *E. elata*, the size of the bracts has proved to be variable throughout the species' range. Thus, for example, most specimens from Costa Rica have widely rounded bracts shorter than 1 mm long, sometimes reduced to a mere rim around the peduncle. On the other hand, several collections from Panama have larger bracts, those of the first branch up to 5 mm long; the bracts of the upper branches are broadly ovate, up to 8 mm long, but are not foliaceous. In contrast, a specimen from Oaxaca, Mexico (*T. Wendt et al. 4734*, MO) had a foliaceous bract apparently several cm long subtending one of the first branches (it was cut and only the ca. 1 cm long base was left on the specimen). And finally, the abundant collections from the Andean cloud forests near Bogotá have large, foliaceous bracts similar to those of the Gorgona plants or somewhat larger. Thus, although the bracts that subtend the inflorescence branches are predominantly short in *E. elata*, large, foliaceous bracts are not unique to the Gorgona plants, but appear also in such isolated localities as Oaxaca, and the eastern Cordillera of Colombia. Remarkably, these three localities represent the northwesternmost locality for the species, as well as the westernmost and one of the easternmost ones in South America.

With all distinguishing characters found to be variable, *E. sinclairiana* cannot be kept as different from *E. elata*. As the name *E. sinclairiana* antedates *E. elata* for 68 years, it is the one that must be used for this widespread and well–known species.

Euphorbia sinclairiana Benth., Bot. Voy. Sulphur 163. 1846. Lectotype (here designated). Colombia. Cauca, Island of Gorgona, *A. Sinclair s.n.* (K, stamp number 41827/80).

> *Euphorbia elata* Brandegee, Univ. Calif. Publ. Bot. 6(4): 55. 1914. Type: Mexico, Chiapas, Finca Irlanda, Aug 1913, *Purpus 7026* (holotype, UC, n.v.; isotype, MO).

Shrub or small tree 1.5–3 m high, glabrous, with abundant milky latex; stipules widely ovate to triangular, cucullate, 2–3 (–4) mm long, 2–3 (–4) mm wide. Leaves alternate; petioles 2–4.5 (–6) cm long; blades narrowly obovate, (14–) 19–32 (–41) cm long, (6–) 7–11 (–13) cm broad, chartaceous, apically short to long–acuminate, sometimes rounded or obtuse, cuneate at base, margin entire; venation hyphodromous; lateral veins (16–) 19–24 (–30) pairs per side. Inflorescence cymose, terminal, sometimes appearing axillary due to the dominance of the closest lateral bud, (7.5–) 11–31 (–49) cm long, glabrous or minutely puberulent, subsessile to long–pedunculate, peduncle (0.3–) 2.5–13 cm long; cymes 3–5 times divided, first branch of the inflorescence (0.5–) 8.5–20 (–24) cm long; bracts opposite, widely rounded, up to 1 mm long, 4–8 mm broad, sometimes reduced to a mere rim around the peduncle, or foliaceous, elliptic, rounded or broadly ovate, 1–4 cm long, 0.6–2.5 cm broad. Involucres campanulate, 6–9 mm long, pedicels 1–5 mm long; lobes 5, 2–3 mm long, erose to fimbriate; glands 5, round, 1.5–2.5 mm diam., thick–stalked or sessile. Capsules exserted from the cyathium, 0.8–1.2 cm high, 1–1.7 cm diam., deeply 3–lobed, green, smooth to covered with an inconspicuous network of low ridges; seed trigonous to subglobose, 4.5–8 mm long, 4.5–6 mm diam., ecarunculate, brownish.

Selected specimens examined: MEXICO. **Oaxaca**: Mpio. Sta María Chimalapa congregación Nicolás Bravo, 3–5 km al sur de la pob. de Río Alegre, 150 m, 17° 10’ N, 94° 42’ W, 29 Dec 1984, *T. Wendt et al. 4734* (MO). COSTA RICA. **Alajuela**: Reserva Forestal San Ramón, ca. 10 km W of Laguitos, along río San Lorencito 850–1100 m, 10° 18’ N, 84° 34’ W, 30 May–1 Jun 1986, *B. Hammel et al. 15240* (MO). **Puntarenas**: R. N. Fauna Silv. Golfito, along steep carril ascencing W slope of Fila Gamba, ca. 0.5 km NE of jct Quebrada gamba and Q. Rancho, 100–200 m, 8° 41’ 00” N, 83° 12’ 30” W, 30 Jan 1992, *M. Grayum et al. 10081* (MO). PANAMA. **Colón**: Upper río Piedras headwaters, along trail from end of Santa Rita ridge road, ca. 11 km SW of cerro Braja, 600–700 m, 9° 25’ N, 79° 35’ W, 30 Apr 1981, *K. Systma et al. 4203* (MO). **Comarca de San Blas**: cerro Habú, trail from río Sidro, 420–740 m, 9° 23’ N, 78° 49’ W, 18 Dec 1980, *K. Systma et al. 2665* (MO). COLOMBIA. **Cauca**: Municipio de Guapí, Parque Nacional Natural Isla Gorgona, 15 Mar 1975, *I. Cabrera 3203* (COL); Isla Gorgona, costado oriental, 22 Jun 1950, *A. Fernández 404* (COL); East side of Gorgona Island, 11 Feb 1939, *E. P. Killip & H. García 33153* (COL); Isla Gorgona, 30 May 1986, *G. Lozano et al. 5026* (COL), 7 Jun 1986*, G. Lozano et al. 5346* (COL); Isla de Gorgona, Alto de los Micos, 8 Sep 1987, *J. Fuertes et al. 218* (COL). **Chocó:** Bahía Solano, trail to Cocalito, 9 Apr 1990, *P. Franco & M. Aidé 3043* (MO); top of Serranía del Darién east of Unguía, ca. 1400 m, 19 Jul 1976, *A. Gentry et al. 16784* (COL, MO); Alto del Buey, 1200–1800 m, 8 Jan 1973, *A. Gentry & E. Forero 7279* (COL, MO). **Cundinamarca**:

Sasaima, Vereda San Bernardo, La María, entre las quebradas La María y La Victoria, 23 Jan 1948, *H. García–Barriga 12586* (COL); Municipio de Albán, Vereda Las Marías, Granjas Infantiles del Padre Luna El Gran Ciudadano, bosque de reserva al lado del Río Dulce, 2140 m, 13 Apr 1998, *M. Alvear & C. Martínez 76* (COL); 2000 m, 4° 52' N, 74° 26' W, 24 Apr 2000, *C. I. Orozco et al. 3379* (COL); 1800–2100 m, 4° 52' N, 74° 26' O, 18 Feb 2002, *C. Lopera 43* (COL). **Valle del Cauca**: Bahía Málaga, creek entering ocean at military camp on peninsula across from Juanchaco 0–20 m, 4° 00' N, 77° 30' W, 16 Dec 1985, *A. Gentry et al. 53364* (MO). ECUADOR. **Napo**: Cantón Archidona, Parque Nacional Napo–Galeras, Cordillera de Galeras, trail to Santa Rosa de Arapino, 1400–1950 m, 00° 39' S, 77° 30' W, 22 Mar 1997, *A. Álvarez et al. 1760* (MO). PERU. **Loreto**: Prov. Maynas, Explorama Tourist Camp, quebrada Sucusari, Río Napo, 130 m, 3° 15' S, 72° 55' W, 30 May 1991, *A. Gentry et al. 74323* (MO). **Puno**: Río Candamo, fila at mouth of Río Guacamayo, 840 m, 13° 30' S, 69° 50' W, 26 May 1992, *A. Gentry et al. 77242* (MO). BRAZIL. **Acre**. Mun. Brasiléia, Seringal Porongaba, Colocação São José, 10° 51' S, 68° 48' W, 25 May 1991, *D. Daly et al. 6694* (MO).

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